Conversion instruction water trap for Cicero EM, Cato, PM 8060sa Colour /Monochrome (S/W v2.04 or higher), PM8050 and Julian

Supplied with conversion kit:

1	Conversion instructions	6870569
3	Water trap	6870511
1	Holder	6870530
2	Screws 3 x 8	1338544
10 cm	PTFE hose 0.75 x 0.5	1209485
100 cm	Hose (red)	8600513
1	Adapter plate	6870532 (only in PM 8060 colour sa conversion kit)
2	Screws 3 x 16	1342630 (only in PM 8060 colour sa conversion kit)
1	Rear panel	8601311 (only in Julian conversion kit)

Tools needed:

1	Set of Allen keys Sizes 2.5, 3,4,5,6	7910304
1	Set of open-end spanners	7901512
1	Phillips screwdriver 1x80	7910353
1	Screwdriver	7901518
1	Pressure gauge -1bar	7901514
	T-pieces	6800187
1	Test thorax	7901082
	Silicone hose 4 mm	
1	Disposable syringe	

CE conformity
During the conformity assessment procedure, the WaterLock (WaL) water trap was found to conform to the basic requirements as per Directive 93/42/EEC for integration in existing devices.

Safety information: Handling the Nafion hose

Caution: Do not touch the Nafion hose with bare hands. Always use protective gloves!

Preliminary work: preparing the PTFE hose

- From the red hose supplied, cut off two pieces of hose with the following lengths:
  - Cicero EM colour/monochrome: 5 cm
  - PM 8060 sa colour/monochrome: 5 cm
  - Cato: 5 cm
  - PM 8050: 15 cm
  - Julian: 6 cm
- Insert the enclosed PTFE hose at least 5 mm into the cut off red pieces of hose on both sides. Use a piece of cloth or similar to hold the PTFE hose (very slippery).
  With its relatively small internal diameter, the PTFE hose has greater gas flow resistance and in the new water trap it replaces the copper restriction.

1 Cicero

- Switch off the device
- Disassemble Parameterbox holder / side hand rail. Leave the fixing screws of the rail / Parameterbox holder in the side plate (cover plate) to protect them from falling off.
- Disassemble holder for hinged arm (no need to remove mains socket for D-Vaporizer)
- Remove cover plate.
- Only for ceiling mounted devices:
  - Remove gas supply hoses
  - Loosen screws of Cicero power pack and swing out power pack
  - Remove cover plate using a large screw driver. Use the hole on the bottom right-hand side.
- Remove Allen screws/plastic screws from old Ohmeda water trap.
- Remove cable of the filling level detector from the PCB level detection and remove hoses connecting water trap with the monitor **at the** old water trap (connectors „1“ and „2“). The hoses remain in the device.

- Cut off the widened ends of the old hoses (approx. 5 mm).
- Connect hoses to the analyzer port and the purge port of the holder as follows:
  Purge port holder <-> Monitor AGas-connection **1**
  Analyzer port holder <-> Monitor AGas-connection **2**
  (see sketch for holder in Appendix).
- Screw on holder using two screws (Phillips self-tapping screws for plastic) (use old holes).
- Assemble side piece and power pack (repair any damage to paintwork)
- Place water trap on holder
- Mount gas supply hoses
- Remove **PM 8060 colour** from Cicero EM, disconnecting all electrical and hose connections (mark PAW hose and anaesthetic gas return hose)
  - Remove hood and rear panel of PM 8060.
  - In the IRIA module of the PM 8060 colour, remove the hose with copper restriction between damper and Nafion hose and insert the prepared PTFE hose in the same place (the Nafion hose can remain in the device). Caution! Avoid bending or damaging the Nafion hose. Danger of blockages!
- The **PM 8060 monochrome** can remain in the Cicero EM, but the rear panel must be removed.
  - Remove hood of PM 8060
  - Remove hose with copper restriction between the socket at the monitor housing and socket „1“ on the gas detection module. Insert the prepared PTFE hose in the same place as the removed hose with the copper restriction.
- Assemble monitor and insert into Cicero EM.
- First assemble hose connections
- Assemble electrical connections
- Perform leak-tightness test (see sketch in Appendix)
- Assemble rear panel in Cicero EM monochrome
- Perform VDE tests
- Switch on Cicero EM, abort self-test, confirm check list
- Go into Service Mode
  In "Service2", "Menu" switch "watertrap = off"
  Exit Service Mode.
- Switch PM 8060 to operating mode
- Perform function test for CO2 measurement by breathing into the sample hose. CO2 curve rises sharply.
- Connect test thorax and perform IPPV ventilation with PEEP.
  If the device does not display PEEP after several breaths the anaesthetic gas return hose and PAW hose are round the wrong way
- Assemble monitor and/or Cicero. Make all connections.
- Place water trap onto holder

2 PM8060 sa colour / monochrome (S/W v2.04 or higher)

- Switch off the device
- PM 8060 colour
  - Remove rear panel, side panel/hood of monitor
  - Dismantle the side hand rail (on the side of the water trap) and unscrew the locking screw positioned directly above the water trap holder in the monitor housing
  - Remove white plastic adapter piece and unscrew Ohmeda water trap
- PM 8060 monochrome
  - Remove side panel
  - Unscrew Ohmeda water trap
- Remove cable of the filling level detector from the PCB level detection and remove hoses connecting water trap with the monitor at the old water trap (connectors „1“ and „2“). The hoses remain in the device.
- Cut off the widened ends of the old hoses (approx. 5 mm) and lay them through the corresponding hole in the housing of the water trap holder.
- Connect hoses to the analyzer port and the purge port of the holder as follows:
  Purge port holder <-> Monitor AGas-connection **1**
  Analyzer port holder <-> Monitor AGas-connection **2**
  (see sketch for holder in Appendix).
- PM8060 colour
  - Screw new holder including the bottom adapter plate to the water trap holder using two screws (3 x 16 Phillips self-tapping screws for plastic) and lock washers.
  - Hang holder in monitor housing and screw in the locking screw again.
  - In the IRIA module of the PM 8060, remove the hose with copper restriction between damper and Nafion hose and insert the prepared PTFE hose in the same place (the Nafion hose can remain in the device). Caution! Avoid bending or damaging the Nafion hose. Danger of blockages!
- PM8060 monochrome (S/W v2.04 or higher):
  - Screw new holder to side panel using two screws (3 x 8 Phillips self-tapping screws for plastic) and lock washers.
  - Remove hose with copper restriction between the socket in the monitor housing and socket „1“ on the gas detection module. Insert the prepared PTFE hose in the same place as the removed hose with the copper restriction.
- Place water trap onto holder
- Perform leak-tightness test (see sketch in Appendix)
- Perform VDE tests

- Switch on PM8060 and go into Service Mode
  In "Service2", "Menu", switch "watertrap = off"
  Exit Service Mode.
- Switch PM8060 to operating mode
- Perform function test for CO2 measurement by breathing into the sample hose.
  CO2 curve rises sharply.

3 Cato

- Switch off the device
- Disconnect all monitor connections and remove the monitor.
- Remove screws from old Ohmeda water trap.
- Pull off hoses connecting the water trap to the monitor **at the** monitor (connections „1“ and „2“).
- Connect new hoses to the analyzer port and purge port of the holder for the new water trap. Ensure that the new hoses are long enough (approx. 40 cm).

- Mark the hoses („1“, „2“) as follows:
  Purge port holder <-> Monitor AGas connection **1**
  Analyzer port holder <-> Monitor AGas connection **2**
  (see sketch for holder in Appendix).
- Screw on holder using two screws (Phillips self-tapping screws for plastic) (use old holes) and lay hoses through the corresponding hole in the housing.
- Remove monitor hood.
- Remove connection hose including copper restriction and Nafion hose if applicable (depends on device version) between gas detection module (Connection 1) and monitor housing and insert prepared PTFE hose in the same place.
- Assemble monitor and mount in Cato. Cut off hoses „1“ and „2“ from water trap to monitor: as long as necessary but as short as possible. Fit hoses to the monitor connections „1“ and „2“.
  Establish all other connections.
- Place water trap onto holder.
- Perform leak-tightness test (see sketch in Appendix)
- Perform VDE tests
- Switch on Cato, abort self-test, confirm check list
- Switch PM 8050 to operating mode
- Perform function test for CO2 measurement by breathing into the sample hose.
  CO2 curve rises sharply.
- Connect test thorax and perform IPPV ventilation with PEEP.
  If the device does not display PEEP after several breaths the anaesthetic gas return hose and PAW hose are round the wrong way.

4 PM8050

- Switch off the device
- Remove hood and front panel of monitor.
- Remove screws from old Ohmeda water trap and remove hoses.
- Remove hose connecting water trap to anaesthetic gas module connection 1, **including copper restriction and if applicable Nafion hose** (depending on device version). Make the PTFE hose the same length as the removed hose with copper restriction (if necessary shorten the red pieces of hose pushed over the end) and insert it in place of the removed hose.
- Replace hose connecting the water trap to the anaesthetic gas module connection 2 by the red hose of the same length, if a blue hose is fitted. If not, shorten the widened end at the water trap by 5 mm.
- Place new hoses through the corresponding hole in the front panel and connect to the analyzer port or purge port of the holder for the new water trap as follows.

  Purge port holder <-> Monitor AGas connection **1**

  Analyzer port holder <-> Monitor AGas connection **2**

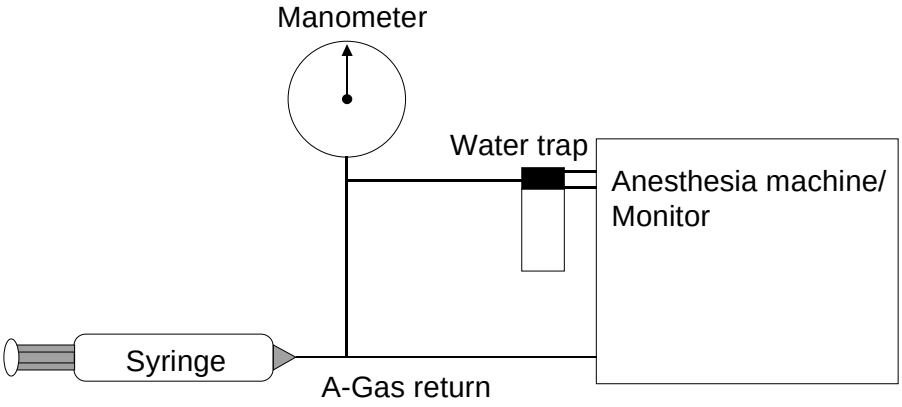
  (see sketch for holder in Appendix).
- Screw on holder using two screws (Phillips self-tapping screws for plastic) (use old holes).
- Connect all other connections and assemble monitor.
- Place water trap onto holder
- Perform leak-tightness test (see sketch in Appendix)
- Perform VDE tests
- Switch PM8050 to operating mode
- Perform function test for CO2 measurement by breathing into the sample hose. CO2 curve rises sharply.

5 Julian

- Switch off the device
- Disconnect all monitor connections and unscrew the rear panel.
- Remove the IRIA gas detection module
- Set jumper X25 on IRIA processor board (on the right-hand side immediatly above the DC-DC converter) from position 1-2 to 2-3 (disabling of old level detection). In this position, the jumper points wards the system connector of the processor board.
- Remove screws from old Ohmeda water trap.
- Remove water trap connectors on the PCB level detection (on IRIA processor board) and remove connection hoses from old Ohmeda water trap.
- Remove first connection hose to water trap **with copper restriction and Nafion hose** (depending on device version) at the damper in gas detection module and mount the PTFE hose at the same place at the damper.
- Remove second connection hose (analysis part) at the end of the Nafion hose: the Nafion hose remains in the gas detection module, insert a new 150 mm long hose piece (cut off from red hose supplied) in the same place.
- Connect new hoses through the corresponding hole in the housing as follows:
  Purge port holder <-> Damper IRIA gas detection module
  Analyzer port holder <-> Nafion hose IRIA gas detection module
  (see sketch for holder in Appendix).
- Screw on holder using two screws (Phillips self-tapping screws for plastic) (use upper pair of screw fixing points in holder).
- Insert IRIA module. Screw on Julian rear panel (from parts supplied) and connect all monitor connections.
- Perform leak-tightness test (see sketch in Appendix)
- Switch on Julian, abort self-test and switch to operating mode
- Perform function test for CO2 measurement by breathing into the sample hose: CO2 curve rises sharply.

Appendix

Sketch showing leak-tightness test set-up



Overall length of silicone hoses: 1 m.
Generate a negative pressure of - 200 mbar +/- 10 mbar using the disposable syringe.
The pressure rise must be less than 20 mbar/min.

Sketch showing connections of holder for the water trap:

Sketch of holder (rear view)